

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

BRAUN GMBH,

Plaintiff,

V.

RAYOVAC CORPORATION,

Defendant.

Civil Action No. 03-1248-WGY

HON. WILLIAM G. YOUNG

FIRST EXPERT REPORT OF SAMUEL R. PHILLIPS, PE

1. I am an independent consulting engineer. I have been retained as an expert in this case by Rayovac Corporation (“Rayovac”) to opine as to whether certain of Braun Gmbh’s patents are invalid. Specifically, I have been asked to review U.S. Patent Nos. 5,649,556 (“the ‘556 patent”) and 5,711,328 (“the ‘328 patent”) (collectively “the patents-in-suit”).

I. BACKGROUND AND QUALIFICATIONS

2. My background and qualifications are attached as Tab 1.
3. I received the degrees of Bachelor of Science in Engineering and Master of Science in Mechanical Engineering from the California Institute of Technology ("Caltech").
4. After receiving my degrees, I worked in industry for over 40 years and have been involved in the product design and development, designing or assisting the design of hundreds of systems and devices. I have received many United States patents in connection with my design and

Attorneys' Eyes Only

EXHIBIT M

development work, as detailed on my curriculum vitae. Pertinent to this litigation, my design work includes:

- analyzing manufacturing processes and proposing design changes for the implantable artificial heart;
- designing an extremely successful plastic submersible pump;
- improving a mass flowmeter;
- specifying systems for the manufacture of ink-jet printing cartridges;
- improving lubricating and sealing in ophthalmic instruments;
- designing aspirating heated probes;
- designing, prototyping, and testing a small-scale vortex separator for waste-water treatment;
- designing pumps, filters, and piping systems for the aerospace industry;
- designing flow nozzles and associated piping for a free-jet fluorometer;
- preparing flow schematics and component layouts for a system of thermal baths for instruments;
- designing vacuum reaction chamber and self-cleaning filter housing for the manufacture of nanoscale fine powders; and
- designing and developing a silent air pump to assist infant breathing.

5. Since 1985, I have been an independent consulting engineer. During that time, I have used my education and experience to assist over 120 clients over a wide variety of topics.
6. I have provided testimony in other matters over the past 4 years. These matters are listed at Tab 1.
7. My compensation is \$425.00/hour through FTL/Techlicon .

II. SCOPE OF STUDY AND OPINION

A. Documents And Information Considered In Forming Opinions

8. The following opinions and analyses are based upon a review of the patents-in-suit and the file histories for the patents-in-suit.
9. In forming my opinions, I have relied upon my education, experience, and training.
10. I also reviewed and relied upon deposition testimony taken in this action.
11. I further reviewed and relied upon prior art references discussed further below.
12. I also reviewed and relied upon pleadings in this action including certain interrogatory responses by Braun.
13. A list of the information I considered in forming the opinions in this report is attached as Tab 2. Exhibits cited herein are attached as Tab 3.

B. Exhibits To Be Used As A Summary Or Support For The Opinions

14. At trial, I expect to rely upon materials and documents produced in this litigation and various other documents that the parties have exchanged, such as interrogatory responses. I also may rely upon visual aids and

demonstrative exhibits that I may prepare or have prepared including, by way of example, figures and excerpts from the patents-in-suit and/or prior art patents, claim charts, deposition testimony, diagrams and other graphical presentations describing the technology relevant to the patents-in-suit and the design, operation and functions of the patents-in-suit and/or prior art patents. These materials may include or involve one or more of the items identified on Tab 3.

C. Questions Asked

15. I have been asked to consider and provide certain background regarding the patents-in-suit. I have also been asked my opinions in response to the following questions:

- a. What is the level of ordinary skill in the art to which the patents-in-suit relate? I understand that various cases have stated that relevant factors are: (1) the educational level of the inventor; (2) types of problems encountered in the art; (3) prior art solutions to these problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.
- b. Would one of ordinary skill in the art be reasonably apprised as to the scope of the "cradle structure" claim elements, as construed by the Court? I understand that, if a claim element provides no guidance as to what is and what is not covered by the claim, it is said to be "indefinite."
- c. Do the specifications of the patents-in-suit clearly allow one of ordinary skill in the art to recognize that the inventor invented what is claimed? I understand that a patent is invalid for want of "written description" if the answer to the preceding questions is negative.
- d. Do the specifications of the patents-in-suit introduce subject matter that would not have been understood by one of ordinary skill in the art in Braun's German priority applications?

- e. Did the inventor of the patents-in-suit fail to disclose the best mode contemplated for practicing the claimed invention(s)? I understand that one of ordinary skill in the art must be able to recognize an inventor's "best mode" from the patent specification. ; claimed.
- f. Do the patents-in-suit name all the inventors for the alleged inventions of the patents-in-suit? tion and prior art.
- g. Does any prior art show each and every limitation of any of the patent claims asserted by Braun? I understand that a prior art patent or other document that shows each and every limitation of a patent claim is said to "anticipate" that claim. eeded to 1 further patents.
- h. Would any difference between the prior art and any of the patent claims have been considered nonobvious to one of ordinary skill in the art? I understand that routine differences between a patent claim and the prior art results in the patent claim being invalid as "obvious." leaning leaning sserted.

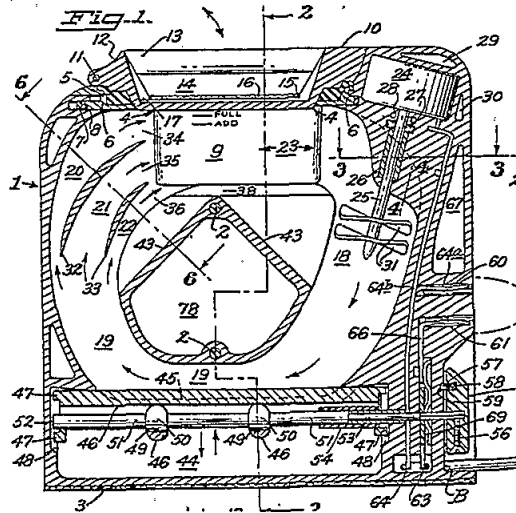
D. Summary of Opinions

- 16. In my opinion, all of the asserted claims of the '556 patent are invalid for anticipation, obviousness, indefiniteness, lack of an adequate written description, improper introduction of new matter, failure to join an inventor, and/or failure to disclose the best mode. ugh to dried. matic As
- 17. In my opinion, all of the asserted claims of the '328 patent are invalid for anticipation, obviousness, indefiniteness, lack of an adequate written description, improper introduction of new matter, failure to join an inventor, and/or failure to disclose the best mode. rious
- 18. At trial, I anticipate giving a basic tutorial that will assist the Court and/or the jury in understanding the technology applicable to the patents-in-suit and the prior art.

C. U.S. Patent No. 5,649,556

26. The '556 patent is generally directed at a cleaning system for shavers. (Ex. 13.) More specifically, the '556 patent purports to improve upon U.S. Patent No. 3,172,416 ("the Simmons patent") filed in 1963. (Ex. 7.) The cleaning system of the Simmons patent is reproduced immediately below. The specification of the '556 patent describes the Simmons patent as follows:

[A] cleaning device ... in which the cutter portion [of a dry shaver] is cleaned by a cleaning fluid directed for this purpose through fluid channels provided in the casing. For the full duration of the cleaning cycle, the cutter portion is seated in a cradle which is provided in the upper part of the casing and is at all times filled to capacity with a cleaning fluid circulating therethrough. (Ex. 7, Col. 1, lines 26-33.)



27. The cleaning system of the Simmons patent operates such that fluid is fed directly into the "cradle" in which the shaver head sits, and the shaver is then given a bath. (Ex. 7, at Figure 1, Col. 6, lines 22-70.) After the bath

is completed, the shaver is removed and allowed to dry in a separate trough included with the cleaning system. (Ex. 7, at col. 6, lines 22-70.)

28. The '556 patent purports to improve upon two disadvantages of the Simmons patent. First, the cleaning fluid container of the Simmons patent was not a removable and replaceable cartridge. Second, the cleaning fluid container of the Simmons patent did not incorporate a filter. The alleged invention of the '556 patent is the addition to the Simmons patent cleaning system of a removable and replaceable cleaning fluid cartridge with an integrated filter. (Ex. 13, at col. 1, ll. 34-59) ("[I]t is an object of the present invention to improve upon the cleaning device such as to allow ready replacement of the cleaning fluid container. According to the present invention, this object is accomplished in that the cleaning fluid container is separable from the cleaning device and includes a filter means integrally formed therewith.") Braun modified the Simmons patent cleaning system at least partially because it provided Braun with the opportunity for after-market sales. (Ex. 14, Pahl Dep., at 55-56.)

D. U.S. Patent No. 5,711,328

29. Like the '556 patent, U.S. Patent No. 5,711,328 ("the '328 patent") is directed at a system for cleaning shavers. (Ex. 13.) The '328 patent also purports to improve upon the Simmons patent.
30. The '328 patent states that a disadvantage of the cleaning system in the Simmons patent was that the shaver had to be removed from the bath to be dried in another trough following cleaning. (Ex. 15, at col. 1, ll. 54-56.)

Braun's alleged improvement was thus configuring the "cradle" as "a cleaning dish, a drying dish, and/or a storage device and/or is provided in the cleaning device." (Ex. 15, at col. 2, ll. 28-31.)

E. Level of Ordinary Skill in the Art

31. As discussed further below, I have provided opinions as to the invalidity of asserted patent claims from the perspective of one of ordinary skill in the art in January 1995. I understand that the factors that may be considered in determining the level of ordinary skill in the art include (1) the educational level of the inventor; (2) types of problems encountered in the art; (3) prior art solutions to these problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field. It is my opinion that one of ordinary skill in the art would have at least a Bachelor of Science Degree in Mechanical Engineering and 3-5 years of relevant industry experience.
32. I understand that Braun has proposed that the level of skill in the art is experience in design in the dry shaving industry. I disagree that the art of the patents-in-suit is so limited. Having reviewed substantial prior art, in my opinion, dishwashers, tool cleaners, parts washers, jewelry cleaners, etc. are part of the same art as the patents-in-suit in that they have the same purpose -- to wash or clean discrete objects.
33. I have reviewed the depositions of named inventor Gebhard Braun and Dr. Pahl. Mr. Braun received training analogous to that of an engineering

student here in the United States. (Ex. 16, at 24.) He also had many years of experience working as an engineer -- both at Braun and elsewhere. (Ex. 16, at 25-29.)

34. Dr. Pahl received a doctoral degree in Mechanical Engineering. (Ex. 14, at 9-11.) He too worked for many years as a mechanical engineer on shavers and other appliances. (Ex. 14, at 10-11.)
35. Moreover, while working on Braun's shaver cleaning system, Mr. Braun called upon Braun employees who focused on the development of different devices. In particular, Mr. Braun worked with individuals that worked on toothbrushes and Mr. Smetana, a designer of hair dryers. (Ex. 16, at 45-47.) Mr. Braun's actions further support my opinion that the experience of a person of ordinary skill in the art would not be limited to designing dry shavers.
36. Moreover, following the departure of Mr. Braun, Braun hired Juergen Hoeser to head further work upon the cleaning system. When he was hired, Mr. Hoeser had no experience in the design of dry shavers. (Ex. 17, at 26.) In my experience, one of less than ordinary skill in the art would not be hired to head a research project.
37. In addition, as part of his research, Mr. Hoeser also sought the assistance of Braun employees charged with designing toothbrushes. (Ex. 17, at 108.) He also analyzed a contact lens cleaner as part of his development of Braun's cleaning system. (Ex. 17, at 126.) Mr. Hoeser's testimony also supports my opinion.

38. I have reviewed the testimony of Mr. Chasen, the Rayovac engineer who performed much of the work in designing Rayovac's accused products. Prior to working at Rayovac (then Remington), Mr. Chasen, who has a Bachelor's Degree in Mechanical Engineering, had no experience in designing dry shavers. (Ex. 18, at 8-9.) He did, however, have substantial industry experience.
39. I note also that, during prosecution of the patents-in-suit, Braun repeatedly argued that prior art cleaning systems not specifically directed to shavers were "nonanalogous art." (Ex. 12 at B000346, 19 at B00095, 103.) I understand that "nonanalogous art" is prior art that would not be considered by one of ordinary skill in the art. Based upon my education and experience, I disagree with Braun. However, the testimony of Braun's own employees that worked on the Braun's shaver cleaning system demonstrates that Braun's argument is false.
40. Finally, while I believe my opinion as to the level of ordinary skill in the art is correct, my opinions would not change if the level of skill proposed by Braun controlled.

IV. DETAILED CONCLUSIONS FOR THE PATENTS-IN-SUIT

A. INDEFINITENESS

41. I understand that a claim term is indefinite if it does not reasonably apprise those of skill in the art of its scope. I further understand that the Court tentatively construed the claim elements "a cradle structure adapted to receive therein the shaving head" (from the '556 patent) and "a cradle

structure adapted to receive a shaver head of a shaving apparatus” (from the ‘328 patent) to both mean “a structure adapted to support or receive a shaving head of a shaving apparatus and able to receive or retain fluid or both.” It is my opinion that the “cradle structure” elements, as tentatively construed by the Court, do not reasonably apprise a person of ordinary skill in the art as to their scope.

42. The Court’s construction provides no guidance as to what structures are and are not covered by the “cradle structure” elements. More particularly, during prosecution of both patents-in-suit, Braun repeatedly argued to the United States Patent and Trademark Office (“the USPTO”) that certain prior art structures were not “cradle structures.” The prior art structures, however, fall within the Court’s tentative claim construction. A person of ordinary skill in the art would thus be unable to reconcile the Court’s tentative construction with the prosecution history.
43. First, during prosecution of the ‘556 patent, the USPTO rejected certain application claims as obvious over U.S. Patent No. 3,890,988 (“the Lee Patent”) and stated that the Lee Patent disclosed a “cradle adapted to receive the article therein.” (Ex. 19, at B00083-84.) The Lee Patent disclosed a cleaning system for tools, and Figure 5 of the Lee Patent is reproduced immediately below. (Ex. 20).

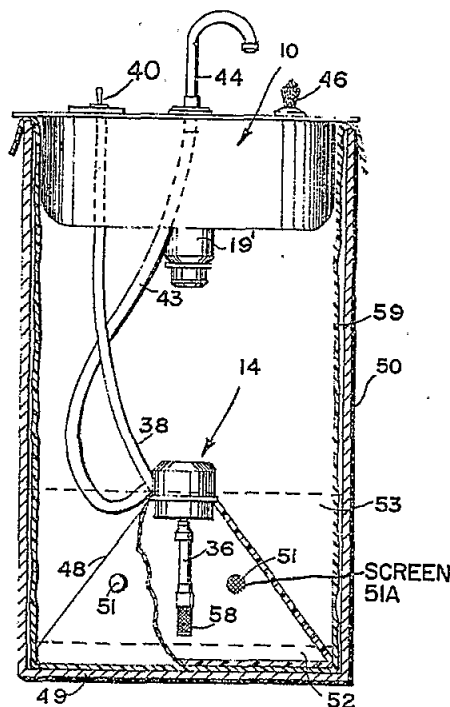


FIG. 5

44. In response to the Examiner's rejection, Braun argued that "Lee provides nothing like a cradle structure adapted to receive a shaving head of a dry shaving apparatus." (Ex. 19, at B00096.) However, the basin (referred to in the Lee specification as receptacle 10) shown in Figure 5 of the Lee Patent clearly is a structure that retains fluid. Moreover, depending on its size, the basin in the Lee Patent would be adapted to receive a shaving head of a shaving apparatus.
45. Also during prosecution of the '556 patent, the USPTO rejected certain application claims as obvious over U.S. Patent No. 4,815,486 ("the Schinn Patent"). (Ex. 19, at B00099-100.) The Schinn Patent disclosed a cleaning system for paint brushes, and Figure 2 of the Schinn Patent is reproduced immediately below. (Ex. 21).

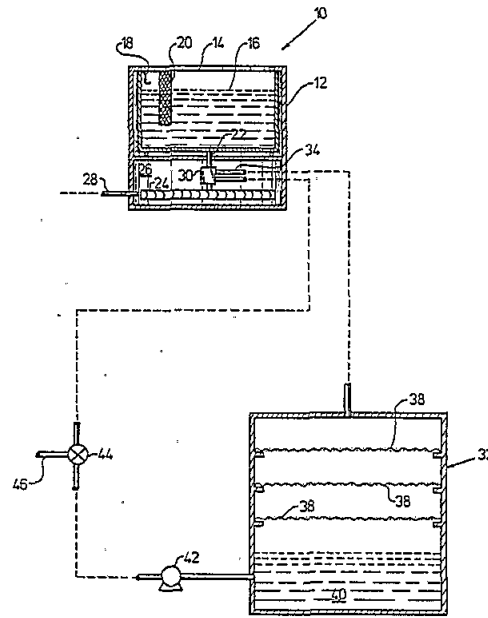


FIG 2

46. Braun again stated to the USPTO that the “limitation of a cradle structure adapted to receive a shaving head ... structurally defines the cradle structure of the invention over Schinn’s hooks and baskets.” (Ex. 19, at B000103.) However, the structure shown in Figure 5 of the Schinn Patent clearly is a structure that retains fluid. Moreover, depending on its size, the structure in the Schinn Patent would be adapted to receive a shaving head of a shaving apparatus.
47. Finally, during prosecution of the ‘328 patent, the USPTO issued an obviousness rejection over U.S. Patent No. 5,335,394 (“the Cunningham Patent”). (Ex. 12, at B000322-23.) The Cunningham Patent discloses a cleaning system for eye glasses. (Ex. 22.) It also discloses an alternative

embodiment in which dentures placed in a basket are also cleaned. Figure 4 of the Cunningham Patent illustrating the alternative embodiment is reproduced immediately below.

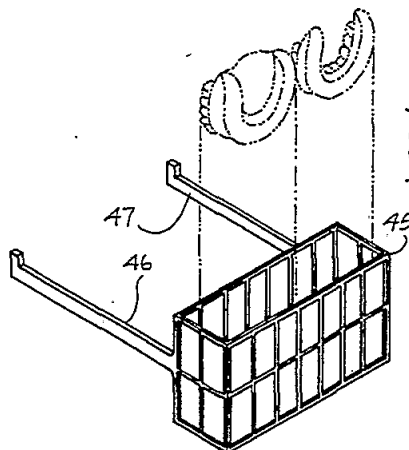


FIG. 4

48. In response to the USPTO's rejection, Braun explicitly argued that there is no "cradle structure" in the Cunningham Patent. (Ex. 12, at B000335.) However, the basket shown in Figure 4 of the Cunningham Patent clearly is a structure that receives fluid. Moreover, the basket used to clean dentures in the Cunningham Patent appears to be of the type used at Braun to clean shaving heads in an ultrasonic cleaning system.¹ (Ex. 17, Hoeser Dep., at 31-33.)
49. In my opinion, the Court's tentative claim construction does not distinguish the structures that Braun argued were not "cradle structures"

¹ I understand that Braun has not yet produced any documents regarding the ultrasonic cleaning system. Assuming Braun produces or is required to produce such documents, I reserve the right to analyze and comment upon them.

that met the limitations in the patent. As a result, it is my opinion that the “cradle structure” elements, as construed by the Court, are indefinite.

B. WRITTEN DESCRIPTION

50. I understand that, in order for a patent claim to be valid, the written description in the specification must allow one of ordinary skill in the art to recognize that the inventor invented what is claimed. I further understand that there can be no written description for what the inventor did not conceive. Based upon the Court’s tentative construction of the “cradle structure” element presented above, it is my opinion that all asserted claims of the ‘556 and ‘328 patents are invalid for failure to describe the claimed “cradle structures.”
51. More particularly, there is no written description in either patent specification which would clearly allow one of ordinary skill in the art to recognize that Gebhard Braun (or Dr. Dietrich Pahl) invented a structure adapted to support or receive a shaving head of shaving apparatus that receives, but *does not retain* fluid. Rather, in both patents, the “cradle 7” is consistently described as retaining fluid. (Ex. 15, ‘328 pat., at col. 2, ll. 63-67, col. 6, ll. 20-21, col. 6, ll. 44-52, col. 7, ll. 47-49; Ex. 13 ‘556 pat., at col. 3, ll. 29-31, col. 4, ll. 42-43, col. 5, ll. 35-36, col. 7, ll. 4-5.) There is no written description in either patent for a “cradle structure” that does not retain cleaning fluid during the cleaning operation.
52. The lack of written description is not surprising insofar as neither Gebhard Braun nor Dietrich Pahl conceived of a cradle structure that merely

received cleaning fluid. Gebhard Braun testified that the trough in the cleaning system upon which he worked was always filled with fluid during cleaning, a condition essential to the cleaning of a shaver head in his system. (Ex. 16, Braun Dep., at 125, 172.) Mr. Braun's testimony is consistent with the internal invention application he submitted at Braun. (Ex. 23.) That invention application only describes a trough which at all times during cleaning retains fluid. (Ex. 23, at B001070ENG.) Likewise, Dr. Pahl also testified that in his cleaning system he believed that retaining fluid in the trough was essential to the operation of the device. (Ex. 14, at 85-86.) He too never conceived of a cleaning system in which the "cradle structure" only received (but did not retain) cleaning fluid. (Ex. 14, at 85-86.)

53. The testimony of Mr. Braun and Dr. Pahl is further supported by the testimony of Juergen Hoeser. When Mr. Hoeser took over the cleaning center project in 1995, he described the work of Mr. Braun and Dr. Pahl as a "chicken trough." (Ex. 17, Hoeser Dep., at 24.) He based that nickname upon his recollection of a tub that would be filled with water on a farm to feed chickens. (Ex. 17, Hoeser Dep., at 24.) Mr. Hoeser also testified that he is the only individual at Braun who allegedly thought of a cleaning system (such as Rayovac's accused products) in which there is no fluid retention.² (Ex. 17, Hoeser Dep., at 97-99.) I understand that Mr. Hoeser

² I understand that Braun has not produced documents relating to Mr. Hoeser's work on the cleaning system described above. To the extent that such documents are produced, I reserve the right to comment upon them.

came to work at Braun in July 1995 after both of the patents-in-suit were filed with the USPTO. (Ex. 17, Hoeser Dep., at 19.)

54. Based upon my review of the written description of both patents-in-suit and the deposition testimony, it is my opinion that the patents-in-suit lack an adequate written description insofar as they both do not describe a “cradle structure,” as tentatively construed by the Court.

C. NEW MATTER

55. The patents-in-suit claim priority to German Patent Application Nos. 4402237.9, for the ‘556 patent, and 4402238.7, for the ‘328 patent (“collectively the German applications”). In my opinion, the United States patent applications corresponding with the patents-in-suit both introduced new matter; *i.e.*, that they contain additional subject matter not disclosed to one of ordinary skill in the art in the German applications.
56. First, for both patents, Birgit Hubatsch allegedly translated the German applications including the word “aufnahmeteil.” (Exs. 12 at B000182, Ex. 19, at B000077.) Ms. Hubatsch translated the word “aufnahmeteil” to mean “cradle” or “cradle structure,” and Braun represented that this translation was literal. (*Id.* at B000265-66; B00046-47.)
57. Later, however, on Braun’s behalf Susan Christian of TransPerfect Translations translated “aufnahmeteil” as “receptacle.” (Ex. 24.) I have reviewed the Dictionary of Engineering and Technology, Vol. I English-German, 5th Edition, 1989 (“the English to German Dictionary”) and the German-English Dictionary Vol. II, 4th Ed. 1975) (“the German to English

Dictionary”) to check whether Ms. Christian’s translation was correct, and it is. (Exs. 25 and 26.) I also noted that the German to English Dictionary provides many German words for the English word “cradle,” but none of those words is “aufnahmetiel.” (Ex. 26.)

58. A “receptacle” is a different structure than a “cradle structure,” as tentatively construed by the Court. In my experience, a “receptacle” can merely maintain a liquid level. On the other hand, a “cradle structure,” as construed by the Court, is a broader term, having the additional characteristic of receiving fluid, but then letting it run out as, for example, a dishwasher rack. In my opinion, the term “receptacle” would not reasonably convey to one of ordinary skill in the art that Gebhard Braun (and/or Dr. Dietrich Pahl) invented a “cradle structure” as construed by the Court. To the extent that “cradle structure” means anything different from “receptacle” -- and I understand the Court’s construction to mean something different from “receptacle” -- then the U.S. patent applications included matter not contained in the German priority applications.

59. Second, the ‘328 patent contains a description of prior art French Patent No. 2,568,111. (Ex. 15, at col. 1, l. 59 - col. 2, l. 8.) Ms. Christian’s translation of the German counterpart application to the ‘328 patent indicates that there was no discussion whatsoever of the French patent in the originally filed German application. (Ex. 24.) In my opinion, the remaining text in the German counterpart application would not

reasonably convey to one of ordinary skill in the art the substantial discussion of the French patent.

D. BEST MODE

60. I understand that a patent is invalid if an inventor fails to disclose the best mode contemplated by him, as of the time his patent application was filed, of carrying out his invention. I also understand that the written description of a patent is viewed from the perspective of one of ordinary skill in the art in determining whether a best mode of practicing an invention was concealed. It is my opinion that both of the patents-in-suit fail to describe what the inventor (or inventors if Dr. Pahl is one) believed to be the best way to practice the claimed invention.
61. In particular, the patents-in-suit do not disclose to a person of ordinary skill in the art the cleaning fluid preferred by Dr. Dietrich Pahl. All asserted claims of the patents-in-suit recite a cleaning fluid. Dr. Dietrich Pahl testified that, prior to the January 1995 filing dates of the patents-in-suit, he preferred the cleaning fluid used in spray cans sold by Braun for the cleaning of shavers. (Ex. 14, Pahl Dep., at 165-69.) Braun purchased such cleaning fluid from a third party unknown to Dr. Pahl. (Ex. 14, Pahl Dep., at 36-37.) Such cleaning fluid contained methyl alcohol, a lubricant, and a fragrance. (Ex. 14, Pahl Dep., at 165-69.) Dr. Pahl further testified that, in addition to the grease dissolving properties of the fluid, he also looked for a cleaning fluid with the lowest possible viscosity. (Ex. 14, Pahl Dep., at 165.)

62. I note that Gebhard Braun has testified that he did not participate in analyzing cleaning fluid, and he relied upon Dr. Pahl for the selection of an appropriate fluid. (Ex. 16, Braun Dep., at 87.) However, Mr. Braun did testify that the cleaning fluid employed accounted at least partially for the “magical” results of Dr. Pahl’s cleaning system. (Ex. 16, Braun Dep., at 54, 87.) I further understand that Braun has not produced the specification for Dr. Pahl’s preferred cleaning fluid. When Braun produces that specification, I reserve the right to review it and comment upon it.
63. In my opinion, one of ordinary skill in the art would not recognize Dr. Pahl’s preferred cleaning fluid from their written description of either patent-in-suit. Each patent specification merely states that a “fat-dissolving cleaning fluid” should be used with the claimed cleaning system. (Ex. 13, ‘556 pat., at col. 6, ll. 15-16; Ex. 16, ‘328 pat., at col. 4, ll. 23-24.)
64. From the recitation of a “fat-dissolving cleaning fluid,” one of skill in the art would not recognize that methyl alcohol was the preferred solvent for grease. Nor would one of skill in the art recognize that the “fat-dissolving cleaning fluid” should have the lowest viscosity possible. Indeed, Mr. Hoeser needed to seek the assistance of chemists at Braun in selecting an appropriate cleaning fluid. (Ex. 17, Hoeser Dep., at 134-35.)
65. Moreover, one of ordinary skill in the art certainly would not recognize that Dr. Pahl’s preferred cleaning fluid contained a lubricant. Indeed, as

the patent specifications teach the dissolution of grease, one of ordinary skill in the art would not expect to place a lubricant in the cleaning fluid. Dr. Pahl, however, testified that the lubricant was necessary to maintain the shaving head over time. (Ex. 14, Pahl Dep., at 167.) There is no discussion in either patent specification regarding the beneficial effects of the lubricant.

66. Finally, there is no suggestion in either patent's written description regarding inclusion of a fragrance in the cleaning fluid. There is also no suggestion that there would have been an unpleasant odor associated with the cleaning system.

E. INVENTORSHIP

a. Dr. Dietrich Pahl

67. The information that I have reviewed indicates to me that Dr. Dietrich Pahl developed the ideas for several asserted claims of the patents in suit.
68. I understand that Braun has asserted that Dr. Dietrich Pahl invented many of the alleged inventions in the patents-in-suit. Having reviewed the deposition transcripts of Mr. Braun and Dr. Pahl, I agree.

b. Norbert Smetana

69. I have reviewed the deposition transcripts of Dr. Pahl, Mr. Braun, Norbert Smetana, and certain documents that Braun has provided in this case. Based upon that review of that evidence, it is my opinion that Mr. Smetana provided the idea for the combination of an impeller and a heater claimed in claim 13 of the '328 patent.

70. According to Braun, Dr. Pahl had conceived of and reduced to practice a prototype cleaning system by November 1992. (Ex. 27, Braun's Response to Rayovac Interrogatory No. 2.) Dr. Pahl's prototype included an axial fan to dry the shaver head. (Ex. 28, Smetana Dep., at 18.) At some point in 1993, at the request of Dr. Pahl and/or Mr. Braun, Norbert Smetana, a designer of Braun's hair dryers, began working on aspects of Dr. Pahl's prototype. (Ex. 28, Smetana Dep., at 36-38.) Mr. Smetana memorialized his work in an August 3, 1993 memorandum addressed to Mr. Braun, Dr. Pahl, and Dr. Jung. (Ex. 29.)
71. In that memorandum, Mr. Smetana reported that the fan in the cleaning system dried the shaver head with "cold air," *i.e.* not with a heater. (Ex. 29.) At the end of the memorandum, Mr. Smetana suggested that a heater be used with the fan to expedite the drying. (Ex. 29.) Mr. Smetana testified that the idea for using the heater with the fan may have been conceived "jointly" with Mr. Braun. (Ex. 28, Smetana Dep., at 48-49.) On the other hand, Mr. Braun testified that he had no role in the development of the drying device for the Braun cleaning system. (Ex. 16, Braun Dep., at 139.)
72. Claim 13 of the '328 patent depends from claim 12, and requires that the "drying device" comprise both an impeller and a heater. It is my opinion

that Mr. Smetana provided the idea for the combination of an impeller and a heater, as claimed in claim 13 of the '328 patent.³

73. I understand that Braun has asserted that Dr. Pahl's original prototype contained a heater. However, Mr. Hoeser, who testified as Braun's designee on conception and reduction to practice, could not identify a heater in any documents that Braun has produced from the early 1990's. (Ex. 17, Hoeser Dep., at 82-86.)

c. Helmut Kraus

74. I have reviewed the deposition transcripts of Mr. Braun, Dr. Pahl, Mr. Hoeser, and certain documents Braun has produced. Based upon that review, it is my opinion that Helmut Kraus provided the idea for at least an interlock claimed in claim 19 of the '328 patent.
75. According to Braun, claim 18 of the '328 patent, which includes the limitation "a bracket for insertion of the shaving apparatus therein," was conceived and reduced to practice by July of 1993. (Ex. 27, Braun's Response to Rayovac Interrogatory No. 2.) The July 1993 date corresponds with the submission of Mr. Braun's internal invention application at Braun. (Ex. 23.) However, prior to June 4, 1993, Braun had submitted a prototype of Dr. Pahl's cleaning system to VDE, a German testing group, for approbation. (Ex. 32.) Dr. Pahl had, in fact, requested that VDE inspect his cleaning system. (Ex. 14, Pahl Dep., at 183-84.) Mr.

³ I understand that Mr. Smetana has documents related to his work on the shaver cleaning system that have not been produced in this litigation. (Ex. 28, Smetana Dep., at 25-80.) I reserve the right to review these documents and comment upon them.

Kraus analyzed the prototype, and, thereafter, had a meeting with Mr. Stiegler and Mr. Petretti of Braun to relay his ideas. Following the meeting, Mr. Stiegler sent a June 4, 1993 memorandum to Dr. Pahl (among others) reporting Mr. Kraus' ideas. (Ex. 30.)

76. In that memorandum, Mr. Stiegler reported that Mr. Kraus had instructed Braun that an interlock needed to be included with the cleaning system. (Ex. 30.) The purpose of the interlock was to preclude a consumer from removing the shaver during cleaning/drying due to the risk of electric shock. (Ex. 14, Pahl Dep., at 184-86.) It is my opinion that one of ordinary skill in the art would have been able to implement the instruction of Mr. Kraus with routine engineering.
77. Dr. Pahl testified that he believed that the interlock constituted an inventive improvement upon his original cleaning system prototype. (Ex. 14, Pahl Dep., at 111-12.) According to Dr. Pahl, the interlock is shown in item 9 of Figure 1 of the '328 patent, and it represents the idea from Mr. Kraus. (Ex. 14, Pahl Dep., at 206.) Dr. Pahl also believes that he would have conveyed the ideas of Mr. Kraus to Mr. Braun at some time. (Ex. 14, Pahl Dep., at 184-86.)
78. Mr. Braun testified that he believed the interlock to be an inventive improvement upon the original work of Dr. Pahl. (Ex. 16, Braun Dep., at 69.) Consistent with the recollection of Dr. Pahl, Mr. Braun also testified that he likely received the idea for the interlock from conversations with Dr. Pahl about the approbation process. (Ex. 16, Braun Dep., at 76-77.)

In all events, Mr. Braun testified that the idea likely came from the approbation process somehow. (Ex. 16, Braun Dep., at 76-77.)

79. Mr. Hoeser, Braun's 30(b)(6) designee on the topic of conception and reduction to practice, testified that the interlock recommended by Mr. Kraus is represented by items 9 and 10 on Figure 1 of the '328 patent. (Ex. 17, Hoeser Dep., at 87-90.) Item 10 in Figure 1 is the "bracket" recited in claim 18 of the '328 patent. The '328 patent states: "Further, by means of a switching means 9 which may be configured as a start button and is mounted in bracket 10, the shaving apparatus 1 (FIG. 1) is mechanically and/or electrically interlocked." (Ex. 15, at col. 6, ll. 61-64.) Mr. Hoeser further testified that the June 4, 1993 memorandum represents an earlier conception date than the July 1993 alleged by Braun for claim 18 of the '328 patent. (Ex. 17, Hoeser Dep., at 90.)
80. It is thus my opinion that Mr. Kraus provided the idea for at least the interlock claimed in claim 19 of the '328 patent.

F. ANTICIPATION

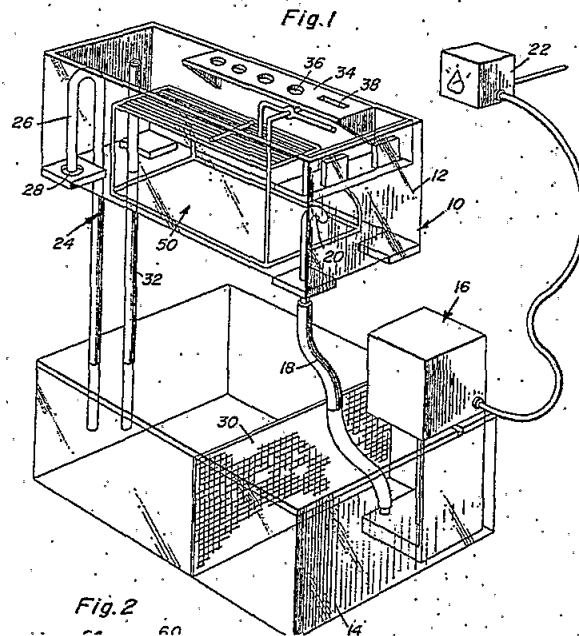
81. I have analyzed whether various prior art patents anticipate the asserted claims of the patents-in-suit. I understand that, in order to anticipate any claim of a patent, a prior art patent must disclose each element of a particular claim. In performing my anticipation analysis, I have applied the tentative claim constructions offered by the Court at the Markman Hearing in March 2005.

The '556 Patent

a. U.S. Patent No. 3,365,267 ("McKinney")

Claim 1

82. The application for the McKinney Patent was filed on September 12, 1963 and issued as a patent on January 23, 1968. I understand that it is prior art to the '556 patent. The McKinney Patent is generally directed to "a sterilizing tank" for barber tools. Figure 1 of the McKinney Patent is reproduced immediately below.



83. Claim 1 of the '556 patent first requires: "A cleaning device for cleaning a shaving head of a dry shaving apparatus." The McKinney Patent discloses this element in its teaching of a device for washing barber's tools. (Ex. 8, at col. 1, l. 3 & col. 2, ll. 10-11.) In particular, the McKinney Patent

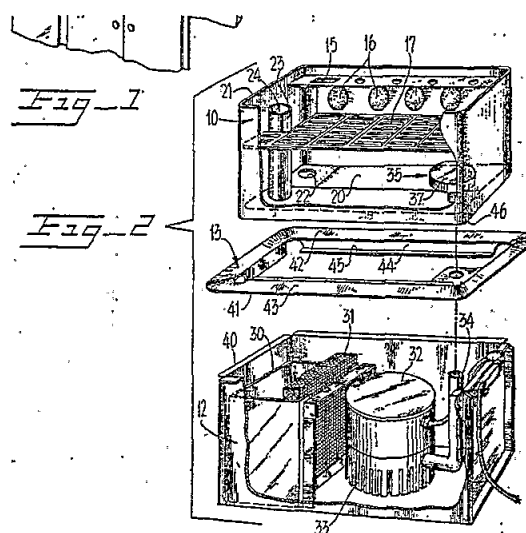
discloses the bathing of the head of hair clippers, a type of dry shaving apparatus.

84. The McKiney Patent discloses “a cradle structure adapted to receive therein the shaving head.” I understand that the Court has tentatively construed the element-at-issue to mean “a structure adapted to support or receive a shaving head of a shaving apparatus and able to receive or retain fluid or both.” The McKiney Patent discloses a shelf 44 and a tank 12. The shelf 44 and tank 12 are adapted to receive and support the shaving head of a shaving apparatus. Indeed, the McKiney Patent states “shelf [44] is specifically adapted to support clipper blades such as 48 which will be retained and held on the shelf 44 by means of the magnets 46.” (Ex. 8, at col. 3, ll. 37-39.) The shelf 44 and tank 12 also both receive and retain cleaning fluid.
85. I understand that the Court has tentatively construed the expression “a cleaning fluid container separate from the cradle structure for holding a cleaning fluid” to mean “a separate cleaning fluid container that is a removable cartridge which holds cleaning fluid.” I also understand that Braun will attempt to read this limitation to somehow cover Rayovac’s products, which do not have a removable cartridge. If Braun argues this claim cover Rayovac’s products, the McKiney Patent discloses the element-at-issue. In particular, tank 14 is separate from the “cradle structure,” and it holds cleaning fluid. (Ex. 8, col. 2, l. 43 & Figs. 1 and 3.)

b. U.S. Patent No. 3,500,840 ("Maatz")

Claim 1

92. The application for Maatz Patent was filed on November 30, 1967 and issued as a patent on March 17, 1970. It is thus prior art to the '556 patent. The Maatz Patent is generally directed to "a cleaning and sterilizing apparatus for barbering tools." Figure 2 of the Maatz Patent is reproduced immediately below.



93. Claim 1 first requires: "A cleaning device for cleaning a shaving head of a dry shaving apparatus." The Maatz Patent discloses this element in its teaching of a device for washing barber's tools. (Ex. 10, at col. 1, l. 3 & col. 2, ll. 10-11.) One of ordinary skill in the art would recognize that barber's tools include hair clippers, a type of dry shaving apparatus.
94. The Maatz Patent discloses "a cradle structure adapted to receive therein the shaving head." I understand that the Court has tentatively construed the element-at-issue to mean "a structure adapted to support or receive a

shaving head of a shaving apparatus and able to receive or retain fluid or both.” Cleaning tank 10 is a structure adapted to receive a shaving head of a shaving apparatus. (Ex. 10, at col. 2, ll. 27-30.) The cleaning tank 10 receives and retains cleaning fluid.

95. I understand that the Court has tentatively construed the term “a cleaning fluid container separate from the cradle structure for holding a cleaning fluid” to mean “a separate cleaning fluid container that is a removable cartridge which holds cleaning fluid.” I also understand that Braun will attempt to read this limitation to cover Rayovac’s products, which do not have a removable cartridge. If Braun argues this claim covers Rayovac’s products, then the Maatz Reference also discloses the element. In particular, “the cleaning tank [10] can be removed from the top of the storage tank [12].” (Ex. 10, at col. 3, ll. 32-33.)

96. The Maatz Patent discloses a “filter.” Element 31 in Figure 2 is a filter. (Ex. 10, at col. 2, l. 43.)

97. I understand that the Court has construed the term “a fluid feed mechanism which feeds the cleaning fluid after it passes through the filter to the cradle structure during cleaning” to mean “a mechanism that feeds cleaning fluid from the cleaning fluid container to the cradle structure after the cleaning fluid passes through the filter.” I understand that the parties also agree that this element requires that fluid must first be fed from the pump to the filter and then to the “cradle structure.” If Braun abandons its position, then the Maatz Patent discloses the element-at-issue. As can be

seen in Figure 2, fluid is pumped into the cleaning tank and then is drained into the filter tank.

98. I understand that the Court has tentatively construed the term “said container and filter being separable from the cradle structure as a unit” to mean “the container and filter are integrally formed or assembled as a unit, such unit being removable from the cleaning device.” I also understand that Braun will attempt to read this limitation to somehow cover Rayovac’s products, which do not have a cartridge assembled with a filter as a unit. If Braun argues this claim covers Rayovac’s products, then the Maatz Patent discloses a lower tank that holds fluid and a removable and replaceable filter. (Ex. 10, at col. 3, ll. 31-36.)

Claim 2

99. I understand that the Court has tentatively construed the element “the cleaning fluid container is comprised of two chambers, one chamber serving to hold the cleaning fluid, the other chamber being configured as a filter” to mean “the cleaning fluid container consists of two enclosed chambers. One chamber holds cleaning fluid, the other chamber is a filter.” The Maatz Patent discloses that “[t]he second or storage tank 12 contains a separate filter tank 30 having a filter 31 mounted therein.” (Ex. 10, at col. 2, ll. 42-43.)

Claim 6

100. The Maatz Patent discloses “the cleaning fluid container includes ports through which cleaning fluid passes in and out of the cleaning fluid